

REMARKS:

- 1) Referring to item 10) of the Office Action Summary, the Examiner is respectfully requested to acknowledge and approve the Formal Drawings filed with this application on March 15, 2002.
- 2) The Specification has been amended in an editorial and clerical manner. These amendments do not change the substance of the disclosure, and are supported by the content of the original disclosure. Thus, the amendments do not introduce any new matter. Entry of the amendments is respectfully requested.
- 3) The previously pending claims are maintained without further amendment. New claims 19 to 23 have been added. The new claims have been drafted "from the ground up" as a fresh approach at covering the inventive subject matter with slightly different claim style and construction. Claims 19 to 21 are supported by the subject matter of original claim 1, while claim 21 further recites the disclosure of original page 8 lines 1 to 3. Claim 22 is supported by the subject matter of claim 14. Claim 23 is supported by the subject matter of Table II at page 19. The new claims do not introduce any new matter. Entry and consideration of the new claims are respectfully requested.
- 4) Referring to section 1 on page 2 of the Office Action, the Examiner is respectfully requested to reconsider the withdrawal of elected claim 13.

Claim 13 clearly reads on the elected species of the elected product invention. Namely, the elected species A is directed to the composition of the bonding layer as defined in claim 14. Claim 13 merely recites that the hard sintered body is bonded directly by that bonding layer to the tool substrate.

The Examiner has asserted that claim 13 is "drawn to a non-elected group or species". The Examiner is respectfully requested to identify which non-elected species is covered by claim 13, without covering the elected species. Claim 13 was not identified as being linked to one of the non-elected species B, C or D in the Election Requirement of May 21, 2003.

The Examiner is further requested to consider, if claim 13 is withdrawn as non-elected, then why is claim 2 included in the examined claims? Neither claim 2 nor claim 13 are limited to non-elected species.

Accordingly, rejoinder and consideration of claim 13 are respectfully requested.

- 5) Further referring to section 1 on page 2 of the Office Action, the Examiner is respectfully requested to reconsider the asserted position regarding the dependent method-of-making claims 8 to 11 and 18.

The Examiner is respectfully requested to consider the dependent claim form of claim 13 of issued U. S. Patent 6,155,755 (Kanada et al.) which has been cited by the Examiner as a reference. Claim 13 of that patent is directed to a method of making the product according to claim 1. Claim 13 of that patent does not repeat all the limitations of the product claim 1, and

it does not need to, because it depends from claim 1 and thereby incorporates-by-reference all limitations of claim 1.

Just like claim 13 of U. S. Patent 6,155,755, claim 8 of the present application is a dependent claim that depends from claim 1, and thus incorporates-by-reference all features and limitations of claim 1. Present claim 8 is clearly directed to "a manufacturing method for manufacturing the hard sintered indexable insert according to claim 1". The phrase "according to claim 1" clearly indicates that all of the features of the hard sintered body indexable insert defined in claim 1 are incorporated as limitations into claim 8. The remainder of claim 8 does not detract from or remove any of those limitation.

The Examiner's assertion that the reference to claim 1 is merely "*an intended use statement*" is incorrect. Claim 8 has nothing to do with an intended use of the product according to claim 1. Instead, claim 8 is clearly and expressly directed to a method of making the hard sintered body indexable insert according to claim 1 in the first place. What the product is to be used for after it is made is irrelevant to claim 8.

The Examiner's interpretation would entirely eviscerate the requirements of MPEP §821.04 and 2116.01. As already noted by the Examiner, MPEP §821.04 requires that "... withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim will be rejoined". Key language here is that the claim depends from or otherwise includes. This language indicates that one way of including all the limitations of the parent claim is to make the claim depend from the parent

claim by referring back to it and thereby incorporating all of its limitations by reference.

The Examiner's "Reason #2" is also respectfully traversed. The Examiner's statement that "only portions of it that are specifically recited ... (in the body of the claim) are given full weight" is directly contrary to MPEP §2116.01, and would seem to apply similarly against any other one of the dependent claims. For example, dependent claim 2 only refers to the "hard sintered body indexable insert as recited in claim 1" in the preamble. Nonetheless, that does not mean that the features of claim 1 can be ignored in the examination of claim 2. To the contrary, all of the features of claim 1 are incorporated by reference into claim 2 and must be examined. This is also proper in the dependent method-of-making claim 8 under the guidance of MPEP §2116.01.

The Examiner is further respectfully requested to review MPEP §608.01(n)(III) which explains an "Infringement Test" for determining whether a claim is a proper dependent claim. Under this test, a dependent claim shall not conceivably be infringed by anything which would not also infringe the basic claim. In other words, the only way to infringe the dependent claim is to also infringe the basic parent claim. In the present case, the only way to infringe the method of making "the indexable insert according to claim 1" as specified in claim 8, is to actually make the indexable insert according to claim 1. In other words, the end product of the method must be an indexable insert having all the features according to claim 1. Thus, the only way to infringe claim 8, is to also infringe claim 1.

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For the above reasons, in the event the elected product claims are ultimately found allowable, the Examiner is respectfully requested to rejoin, consider and allow the non-elected dependent method-of-making claims 8 to 11 and 18, in accordance with MPEP §821.04 and 2116.01.

- 6) The new claims 19 to 23 all read on the elected group and the elected species. Thus, claims 1, 2, 13, 14 and 19 to 23 read on the elected invention.
- 7) Referring to section 3 on page 3 of the Office Action, the rejection of claims 1, 2 and 14 as anticipated by U. S. Patent 6,155,755 (Kanada et al. '755) is respectfully traversed. In order to anticipate a claim, a reference must expressly disclose or inherently include each feature in the combination as recited in the claim. That is not the case here.
- 8) According to present independent claim 1, a part of the tool substrate remains between two seating grooves that are formed opposite each other in the tool substrate, with two sintered bodies disposed on upper and lower surfaces in the seating grooves.

This part of the tool substrate between the two seating grooves has a thickness in a particular limited range from 30% to 90% of the total thickness of the indexable insert, as recited in claim 1.

The present specification makes clear that providing a particular thickness in the claimed limited range, of the portion

of the tool substrate between the two seating grooves, achieves a substantially longer tool life compared to sample indexable inserts having a thickness of this portion of the tool substrate outside of the claimed range. In this regard, compare the inventive samples 2, 3, 4 and 5 to the comparative samples 1, 6 and 7 in Tables I and II on pages 17 and 19 of the specification.

Note that the tool life is reduced both for larger thicknesses and for smaller thicknesses. There is no predictable or expectable linkage between the varying tool life and the thickness of the pertinent portion of the tool substrate. These samples also demonstrate that it is critical to limit the pertinent thickness of the tool substrate to the presently claimed range, in order to achieve the substantially improved tool life according to the invention.

- 9) Kanada et al. '755 do not disclose anything with regard to the pertinent thickness of such a portion of the tool substrate remaining between two opposite seating grooves that receive sintered body members on opposite surfaces of the insert.

The written text of Kanada et al. '755 does not even disclose or suggest that there would have been any significance to the thickness of the pertinent portion of the tool substrate remaining between the two seating grooves.

Considering the drawings of the reference, it is noted that only Fig. 4 is pertinent to the present claimed invention, because only Fig. 4 of the reference has two opposite seating grooves with two sintered body members received therein on opposite surfaces of the insert, and with a remaining portion of

the tool substrate between the two seating grooves. In general, since there is no indication that the schematic illustration of Fig. 4 is drawn to scale, the dimensions of Fig. 4 cannot be taken as an accurate teaching of the thickness or proportions of the illustrated structures.

Moreover, even if Fig. 4 is taken as an accurate to-scale representation, it can be seen that Fig. 4 actually teaches away from the present invention. Namely, in Fig. 4 of the reference, the thickness of the remaining portion of the tool substrate between the two seating grooves is roughly 25 % of the total thickness of the insert. That is significantly less than the presently claimed range of 30 % to 90 %. Accordingly, the presently claimed thickness feature is not disclosed.

- 10) Moreover, the present invention of claim 1 would not have been obvious over Kanada et al. '755, because the reference would have provided no suggestions that the pertinent portion of the tool substrate should have a thickness in the presently claimed range. As mentioned above, Kanada et al. '755 do not disclose any significance or importance as to the thickness of the remaining portion of the tool substrate between the two seating grooves, and Fig. 4 seems to show a thickness of only about 25 %, which would have motivated a person of ordinary skill away from the presently claimed invention. There would have been no motivation for a person of ordinary skill to increase the thickness of the pertinent portion of the tool substrate into the presently claimed range. Also, since there is no prior art suggestion of any significance of this thickness range, or any linkage between

this thickness range and possible benefits or improvements, there also would have been no motivation toward investigating or "optimizing" this thickness range as a mere result-effective variable, because this thickness range had not been established as a result-effective variable that could be optimized.

- 11) For the above reasons, the invention of claim 1 and the claims depending therefrom is not anticipated by and would not have been obvious over the reference. The Examiner is respectfully requested to withdraw the rejection applying Kanada et al. '755.
- 12) Referring to section 4 on page 3 of the Office Action, the rejection of claims 1, 2 and 14 as anticipated by EP 0 940 215 (Kanada et al. '215) is respectfully traversed. The Kanada et al. '215 reference is the European counterpart of the Kanada et al. '755 U. S. reference, which both are based on the same four Japanese priority applications. The disclosure of Kanada et al. '215 is similar to that of Kanada et al. '755 as it pertains to the present claimed invention, as discussed above. Similarly, among the drawings of EP '215 only Fig. 4 is relevant, and teaches away from the present application, if it can be understood as including any relevant teachings regarding the relative thickness at all. Thus, for the same reasons discussed in connection with Kanada et al. '755, the Examiner is respectfully requested to withdraw the rejection applying Kanada et al. '215.


- 13) The additional prior art made of record requires no particular comments because it has not been applied against the claims.
- 14) New claims 19 to 23 are also patentably distinguishable over the prior art. New independent claim 19 defines a structure in which a remaining portion of the tool substrate between two opposite seating recesses has a thickness in the range from 30 % to 90 % of the total thickness. In view of the above discussion of the applied references, it is clear that the structure defined in new independent claim 19 is neither anticipated by nor obvious over the prior art.
- 15) Favorable reconsideration and allowance of the application, including all present claims 1, 2, 8 to 11 and 13 to 23 are respectfully requested.

Respectfully submitted,

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